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Before The  
Federal Communications Commission  
Washington, D.C. 20554

JUN 13 1997

Federal Communications Commission  
Office of Secretary

In the Matter of

Advanced Television Systems  
and Their Impact Upon the  
Existing Television Broadcast  
Service

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MM Docket No. 87-268

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To: The Commission

**PETITION FOR RECONSIDERATION**

Smoky Hills Public Television Corp. ("Smoky Hills"), licensee of noncommercial educational television station KSWK, Channel 3, Lakin, Kansas, by its counsel, hereby petitions for reconsideration of the *Sixth Report and Order* in MM Docket No. 87-268, FCC 97-115 (released April 21, 1997) ("*Sixth R&O*"), insofar as the *Sixth R&O* allocates Channel \*23 as the paired digital TV channel for Smoky Hills's current Channel \*3. As described herein, requiring Smoky Hills to use Channel \*23 will cause substantial and unnecessary hardship. Smoky Hills had engaged in engineering studies and has tentatively selected a substitute channel, Channel \*8, that it proposes for use instead of Channel \*3. Moreover, Smoky Hills continues to engage in engineering studies and anticipates that it and the Commission, working together, can determine whether Channel \*8 (or another workable lower-band VHF DTV channel within the core spectrum to substitute for Channel \*23) can be used by KSWK without significant disruption to other allotments or diminution in coverage area. In this single respect, Smoky Hills seeks relief by this petition.

At the outset, Smoky Hills compliments the Commission on the substantial effort reflected in the DTV Table of Allotments and the *Fifth* and *Sixth Reports and Orders* in this proceeding. Smoky Hills appreciates that the FCC has recognized and tried to accommodate the

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unique needs of public television stations. Smoky Hills also understands that complicated considerations that will have to be undertaken by the Commission as it deals with this Petition and others filed by commercial and noncommercial educational television stations.

Nevertheless, Smoky Hills believes that the alternative DTV channel, Channel \*8 for Station KSWK at Lakin, as requested in this Petition, would best serve the public interest.

Smoky Hills has operated public television stations since 1982, providing high quality educational, informational and cultural programming, including children's programming, to the central, western central, and southwestern regions of Kansas. Station KSWK is a complete satellite repeater station that rebroadcasts the signal of Smoky Hills' co-owned Television Station KOOD, Hays, Kansas. The facilities and equipment for Stations KOOD and KSWK were funded, in large part, with federal and state funding, reflecting the federal and Kansas government's important interest in ensuring continued public television service to these regions. Moreover, a major portion of Smoky Hills on-going operating costs are funded with federal and state dollars. Station KSWK serves a large, but sparsely populated rural area in southwestern Kansas. Station KSWK's coverage area extends some 12,000 square miles, yet the population base numbers only 102,400 person, which provides an average population density of 8.5 persons per square mile. Indeed, some portions of this region receive their only Grade B off-air TV service from KSWK. Assuming that only some portion of the population would financially support local public television service,<sup>1/</sup> the number of potential member-donors from the KSWK

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<sup>1/</sup> Smoky Hills estimates 8% of the population contributes to support public television, which is consistent with Smoky Hills' experience and the experience of public television industry-wide.

service area is quite small. Thus, the financial operating costs of transmission equipment is of utmost important to the survival of this small, rural public television station.

For these reasons and others, by necessity, as a noncommercial educational licensee serving this type of area, Smoky Hills must be a careful steward of its resources, even while it seeks to continue quality DTV service to audiences of the public broadcasting system. The allocation of Channel \*23 as its paired DTV channel instead of apparently available Channel \*8, however, creates enormous obstacles to the achievement of its goals and jeopardized future DTV service for public broadcasting audiences in the region served by KSWK.

In the *Sixth R&O*, the Commission allocated Channel \*23 for KSWK. The Commission suggested that the Channel \*23 facility could operate at 1,000 kW at 171 m HAAT, providing 100% coverage of KSWK's existing service area.<sup>2/</sup>

Smoky Hills requests reconsideration of that aspect of the *Sixth R&O*, and urges the Commission to work with KSWK to substitute Channel \*8 (or an equally acceptable substitute VHF channel) for Channel \*23. Smoky Hills commissioned an engineering study and believes that Channel \*8 can be allotted to KSWK consistent with the goals of the Commission's DTV allotment proceeding. As noted in the attached Engineering Statement of John F. X. Browne, the only significant increase in interference caused by Smoky Hills' use of Channel \*8 for Station

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<sup>2/</sup> In view of the Commission's and Broadcasters Caucus proposals, and in recognition of the fact that the Commission and the broadcasting industry urged that individual broadcasters not file separate comments, Smoky Hills saw no necessity to participate in the proceeding earlier on an individual basis. Smoky Hills did participate, however, in the form of comments filed on its and other public TV stations' behalf by the Public Broadcasting Service and America's Public Television Stations. Therefore, the requirements of Section 1.429 of the Rules with respect to petitions for reconsideration should be deemed satisfied. If necessary, however, Smoky Hills requests waiver of Section 1.429 to the extent necessary for the Commission to consider its petition, in view of the public interest issues raised herein.

KSWK at Lakin would be protection of an existing NTSC Channel 8, Station KSNK, licensed to McCook, Nebraska. Smoky Hills would be willing to operate at a lower ERP during the DTV transition while Station KSNK is using NTSC Channel 8, and to increase power on DTV Channel \*8 at Lakin only after Station KSNK completes its transition to its new DTV Channel 12. Smoky Hills has engaged in on-going dialog with the commercial broadcasters of the area, including the licensee of Station KSNK. Thus, Smoky Hills anticipates that it can work out a mutually acceptable arrangement with Station KSNK for operations during DTV transition. Smoky Hills believes that Channel \*8 is currently the best alternative channel that would avoid interference to other NTSC and DTV allotments and stations, although its confirmation of this fact has been hampered by the unavailability of appropriate engineering tools.

Substantial hardship will be inflicted upon Smoky Hills if it is required to activate its DTV channel on Channel \*23 in lieu of Channel \*8 (or another available VHF allotment). Operation of a DTV station on Channel 23 with power levels of 1,000 kW as proposed by the Commission will result in a phenomenal increase (3700%) in the operating costs for KSWK as the annual electrical costs alone would skyrocket from approximately \$4,500 to over \$176,000:

Comparison of Costs and Operations (Channel 28 and Channel 8)

	<u>UHF Channel 23</u>	<u>VHF Channel 8</u>
ERP	1,000 KW	10 KW (maximum allowed)
Antenna Gain	27	10
Line Efficiency	90%	93%
Transmitter Power Output	41.2 KW	1.08 KW
Transmitter Power Input	164.8 KW	4.3 KW
Daily electrical costs with 24 hour broadcast day	<b>\$482.53</b>	<b>\$12.60</b>
Annual electrical costs	<b>\$176,123.45</b>	<b>\$4,497.00</b>

These actual costs, are in themselves a devastating problem for a noncommercial educational station serving rural Kansas. The cost issue, standing alone, might well spell the demise of Station KSWK if Smoky Hills is required to use Channel \*23.

For the foregoing reasons, Smoky Hills requests reconsideration of the *Sixth R&O* to the extent that it allocates Channel \*23 for KSWK in Lakin and suggests substitution of Channel \*8 for KSWK at Lakin (or another suitable VHF channel, should Channel \*8 be deemed unworkable), with the understanding that Smoky Hill would protect co-channel NTSC Channel 8, McCook, Nebraska during the DTV transition. Smoky Hills respectfully submits that the public interest would be best served by this substitution in allotments.

Respectfully submitted,

**SMOKY HILLS PUBLIC TELEVISION CORP.**

By: 

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Margaret L. Miller  
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202-776-2000

June 13, 1997



## **ENGINEERING STATEMENT**

of

John F. X. Browne, P.E.

in Support of

Petition for Reconsideration

Smoky Hills Public Television

**KSWK Lakin, KS**

### **BACKGROUND**

This engineering statement has been prepared in support of a petition for reconsideration to be filed by the licensee of non-commercial station KSWK Lakin, KS with respect to the channel allotment made to KSWK-TV for its Digital Television transmissions in the Commission's Sixth Report and Order in MM Docket No. 87-268.

KSWK operates on VHF Channel 3 and has been a VHF station since its inception. It was allotted DTV Channel 23 at a power level of 1,000 kW to replicate the service rendered by its NTSC operation on Channel 3.

KSWK is concerned about its ability to construct and operate such a facility given the capital and operating costs but, more importantly, the ability of its present physical facilities (tower and building) to accommodate such a large transmission system.

This firm conducted a search for an available VHF channel and has identified Channel 8 as a possible substitute.

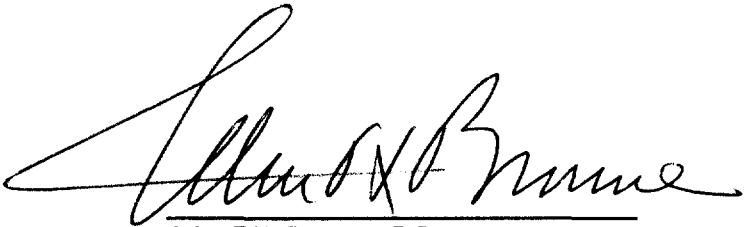
A thorough analysis of the potential for interference to the facilities of a co-channel NTSC facility in McCook, NE could not be conducted because Bulletin OET-69 was not available at the time of preparation of this statement. However, it would appear that Channel 8 would meet the interference criteria, particularly if the KSWK DTV facility is operated with a directional antenna to protect this distant NTSC facility. See attached channel study.

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With the foregoing consideration, Channel 8 could be assigned with a maximum ERP of 45 kW with a limitation, as necessary, for a power reduction in the direction of KSNK (N009°E).

Certification

This statement with associated exhibits was prepared by me or under my direction. All assertions contained in the statement are true of my own personal knowledge except where otherwise indicated and these latter assertions are believed to be true.



John F.X. Browne, P.E.

Attachment: Figure 1

Digital TV Spacing Study

TITLE: KSWK DTV  
Channel 8 Zone II  
Database: FCC 05/22/97

Latitude: 37-49-38  
Longitude: 101-06-35  
Safety zone: 120 km

Call	Auth	Licensee name	Chan	ERP	HAAT-m	Latitude	BR-to	Dist.	Req.
City of License	St	FCC File No.	Zone	(kW)	HAMSL	Longitude	-from	(km)	(km)
=====									
KBSH-TV	LIC	STARTAN COMMUNICATION	7 -	316	216	38-53-01	52.2	194.2	146.4
HAYS	KS		II		852	99-20-15	233.3	47.84	CLEAR

Horizontal polarization;

KSNK	LIC	SJL OF KANSAS CORP.	8 -	295	216	39-49-48	8.9	225.1	273.6
MCCOOK	NE	BLCT-821110KI	II		1066	100-42-04	189.2	-48.5	SHORT

TRANSMITTER SITE IN KANSAS; Horizontal polarization;

KPTS	LIC	SUNFLOWER ETV CORP	* 8 o	302	244	38-03-21	84.0	294.1	273.6
HUTCHINSON	KS		II DA		697	97-46-35	266.1	20.45	CLEAR

Horizontal polarization; DA: RCA Corporation ODDKPTS @ 0 deg;

PRM	DEL	UNIV S. CO/SANGRE DE	* 8 o			38-22-25	282.4	308.4	273.6
PUEBLO	CO	DOC-93-191	II			104-33-27	100.3	34.78	CLEAR

APPLICATION FOR REVIEW.;

PRM	ADD	UNIV S. CO/SANGRE DE	8 o			38-22-25	282.4	308.4	273.6
PUEBLO	CO	DOC-93-191	II			104-33-27	100.3	34.78	CLEAR

APPLICATION FOR REVIEW.;

KTSC	LIC	UNIVERSITY OF SOUTHER	* 8 o	316	372	38-22-25	282.4	308.4	273.6
PUEBLO	CO		II		1888	104-33-27	100.3	34.78	CLEAR

Horizontal polarization;

ALLOC			8 +			35-17-42	154.6	310.2	273.6
SAYRE	OK		II			99-38-24	335.4	36.61	CLEAR

Filing window Closing date: ;

KTSC	CP	UNIVERSITY OF SOUTHER	* 8 o	234	727	38-44-44	288.5	343.6	273.6
PUEBLO	CO	BPET-900122KE	II DA		2964	104-51-39	106.2	69.98	CLEAR

Horizontal polarization; DA: Jampro ODD900122KE @ 0 deg;

KTSC	APP	UNIVERSITY OF SOUTHER	* 8 o	240.	715	38-44-43	288.5	343.6	273.6
PUEBLO	CO	BMPET-931129KE	II DA		2966	104-51-41	106.1	70.02	CLEAR

Elliptical polarization; DA: Dielectric ODD931129KE @ 0 deg;

ALLOC			9 +			36-41-00	194.7	131.2	146.4
GUYMON	OK		II			101-29-06	14.5	-15.2	SHORT

Filing window Closing date: ;

KOOD	LIC	SMOKY HILLS PUBLIC TE	* 9 o	316	332	38-46-16	62.4	232.4	146.4
HAYS	KS	BLET-821130KE	II		885	98-44-17	243.8	85.97	CLEAR

Horizontal polarization;

>> End of Channel 8 Study <<

Figure 1